WHAT IS CLAIMED IS:

1. A spin valve transistor, comprising:

a collector comprising a III-IV semiconductor;

a first spin valve comprising (100)-oriented metals deposited over the collector;

a spacer disposed over the first spin valve;

a second spin valve comprising (100)-oriented metals deposited over the spacer;

a tunnel barrier layer disposed over the second spin valve; and

an emitter disposed over the tunnel barrier layer.

2. The spin valve transistor of claim 1, wherein the first and second spin valves each comprise a pinned layer, the pinned layers being pinned 180° out of phase to provide differential detection.

3. The spin valve transistor of claim 1, wherein the first and second spin valves comprises a first magnetic layer, a non-magnetic layer disposed over the first magnetic layer and a second magnetic layer disposed over the non-magnetic layer.

4. The spin valve transistor of claim 3, wherein the first and second magnetic layers comprise an iron film.

5. The spin valve transistor of claim 4, wherein the non-magnetic layer comprises a gold film.

6. The spin valve transistor of claim 3, wherein the non-magnetic layer comprises a gold film.

7. The spin valve transistor of claim 1, wherein the collector comprises an n-GaAs substrate.

8. The spin valve transistor of claim 1, wherein the spacer comprises a (100)—oriented layer of gold.

9. The spin valve transistor of claim 1, wherein the tunnel barrier layer comprises a layer of Al_2O_3.

10. The spin valve transistor of claim 1, wherein the emitter comprises a layer of aluminum disposed over the tunnel barrier layer and a layer of gold disposed over the aluminum.

11. A magnetic storage device, comprising:

at least one magnetic storage medium;

a motor for moving the at least one magnetic storage medium;

a magnetoresistive sensor for reading data on the at least one magnetic storage medium, and

an actuator assembly, coupled to the ballistic magnetoresistive sensor, for moving the ballistic magnetoresistive sensor relative to the at least one magnetic storage medium;

wherein the magnetoresistive sensor further comprising a spin valve transistor, the spin valve transistor including:

a collector comprising a III-IV semiconductor;

a first spin valve comprising (100)-oriented metals deposited over the collector;

a spacer disposed over the first spin valve;

a second spin valve comprising (100)-oriented metals deposited over the spacer;

a tunnel barrier layer disposed over the second spin valve; and

an emitter disposed over the tunnel barrier layer.

12. The magnetic storage device of claim 11, wherein the first and second spin valves each comprise a pinned layer, the pinned layers being pinned 180° out of phase to provide differential detection.

13. The magnetic storage device of claim 11, wherein the first and second spin valves comprises a first magnetic layer, a non-magnetic layer disposed over the first magnetic layer and a second magnetic layer disposed over the non-magnetic layer.

14. The magnetic storage device of claim 13, wherein the first and second magnetic layers comprise an iron film.

15. The magnetic storage device of claim 14, wherein the non-magnetic layer comprises a gold film.

16. The magnetic storage device of claim 13, wherein the non-magnetic layer comprises a gold film.

17. The magnetic storage device of claim 11, wherein the collector comprises an n-GaAs substrate.

18. The magnetic storage device of claim 11, wherein the spacer comprises a (100)—oriented layer of gold.

19. The magnetic storage device of claim 11, wherein the tunnel barrier layer comprises a layer of Al_2O_3.

20. The magnetic storage device of claim 11, wherein the emitter comprises a layer of aluminum disposed over the tunnel barrier layer and a layer of gold disposed over the aluminum.

21. A method for forming a spin valve transistor, comprising:

forming a collector comprising a III-IV semiconductor;

forming a first spin valve comprising (100)-oriented metals deposited over the collector;

forming a spacer over the first spin valve;

forming a second spin valve comprising (100)-oriented metals over the spacer;

forming a tunnel barrier layer over the second spin valve; and

forming an emitter over the tunnel barrier layer.

22. The spin valve transistor of claim 21, wherein the forming the first and second spin valves further comprises forming a pinned layer pinned 180° out of phase in each of the first and second spin valves to provide differential detection.

23. The spin valve transistor of claim 21, wherein the forming the first and second spin valves further comprises forming a first magnetic layer, forming a non-magnetic layer over the first magnetic layer and forming a second magnetic layer disposed over the non-magnetic layer.

24. The spin valve transistor of claim 23, wherein the forming the first and second magnetic layers further comprises forming a first and second iron film.

25. The spin valve transistor of claim 24, wherein the forming the non-magnetic layer further comprises forming a gold film.

26. The spin valve transistor of claim 23, wherein the forming the non-magnetic layer further comprises forming a gold film.

27. The spin valve transistor of claim 21, wherein the forming the collector further comprises forming an n-GaAs substrate.

28. The spin valve transistor of claim 21, wherein the forming the spacer further comprises forming a (100)—oriented layer of gold.

29. The spin valve transistor of claim 21, wherein the forming the tunnel barrier layer further comprises forming a layer of Al_2O_3.

30. The spin valve transistor of claim 21, wherein the forming the emitter further comprises forming a layer of aluminum over the tunnel barrier layer and forming a layer of gold over the aluminum.

31. A spin valve transistor, comprising:

means for providing a collector comprising a III-IV semiconductor;

means for providing a first spin valve comprising (100)-oriented metals deposited over the means for providing a collector;

means for providing a spacer disposed over the means for providing a first spin valve;

means for providing a second spin valve comprising (100)-oriented metals deposited over the means for providing a spacer;

means for providing a tunnel barrier layer disposed over the means for providing a second spin valve; and

means for providing an emitter disposed over the means for providing a tunnel barrier layer.

32. A magnetic storage device, comprising:

means for recording magnetic data thereon;

means for moving the means for recording magnetic data;

means for reading data on the means for recording magnetic data; and

means, coupled to the means for reading, for moving the means for reading relative to the means for storing data, wherein the means for reading further comprising:

means for providing a collector comprising a III-IV semiconductor;

means for providing a first spin valve comprising (100)-oriented metals deposited over the means for providing a collector;

means for providing a spacer disposed over the means for providing a first spin valve;

means for providing a second spin valve comprising (100)-oriented metals deposited over the means for providing a spacer;

means for providing a tunnel barrier layer disposed over the means for providing a second spin valve; and

means for providing an emitter disposed over the means for providing a tunnel barrier layer.